Proposed Final Opinion on GHG Strategies in the Energy Sectors

Key Findings and Recommendations

October 16, 2008

Agenda Topics

- Background and Context
- September 12, 2008 Interim Opinion
- Comments from Stakeholders
- Proposed Final Opinion
- Issues Requiring Further Analysis and Consideration

Background and Context

- Energy Commission and PUC developing recommendations to ARB for reducing GHG emissions in the electricity and natural gas sectors
- Joint regulatory proceeding
  - March 2008 Interim Opinion
  - September 2008 Draft Final Opinion
  - October 2008 Final Opinion
- ARB is final decision-maker: today's Final Opinion will inform ARB's rulemaking process

September 2008 Interim Opinion

Recommendations

- Adopt regulatory requirements as foundation for GHG reductions
- Consider a mix of direct mandatory and market mechanisms
- Pursue multi-sector cap-and-trade program for GHG emissions allowances

September 2008 Interim Opinion

Recommendations

- Set requirements for achieving all cost effective energy efficiency
- Expand electricity from renewable energy to at least 33 percent goal by 2020
- Some portion of emission allowances should be auctioned
- Auction revenues returned to the energy sectors for benefit of consumers, to be spent on AB 32 purposes such as energy efficiency, renewable energy or low-income bill relief

Stakeholder Comments on September 12 Interim Opinion

Issues with-

- GHG modeling of California's electricity sector
- Emission reductions measures and contribution to AB 32 Goals
- Distribution of GHG emission allowances in a cap-and-trade program
- Treatment of Combined Heat and Power
- Market design and flexible compliance

Proposed Final Opinion

Same Basic Structure as September Interim Opinion

- Energy efficiency: Cornerstone of approach
  - All cost-effective energy efficiency
  - Comparable investments from all retail providers
- Renewable energy: Stepping stone to 2050 goals
  - 33% renewables from all retail providers
- Market-based regulations: Complement and backstop to regulatory measures

Proposed Final Opinion

Electricity Sector Costs and Rate Impacts

- Cost impacts will differ by service territory and ultimate policy chosen for cap-and-trade
- Rate impacts will vary among individual retail providers and customers
- Potential cost and rate increases above inflation are likely due to increase in capital costs and growing demand for electricity, unrelated to AB 32
- Important to have programs, policies, and allocation approaches in place to minimize consumer impacts
- High levels of energy efficiency key to keeping consumer bills down

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New Findings

- AB 32 “burden” should be proportional and fair to consumers in all sectors of the economy
- A centralized auction of allowances undertaken by ARB or its agent would provide market liquidity
- Trajectory of a multi-sector cap and required annual reductions be a straight line for all sectors, however, additional analysis may be needed to address a regional cap-and-trade program
- Commissions recommend a sales-based approach for distributing allowances to retail providers; however, if more detailed modeling reveals larger distributional impacts than estimated, the commissions may revise this recommendation or suggest that ARB do so.

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New Findings

- Reasonable to include the emissions associated with all electricity consumed in California and generated by CHP facilities in excess of a minimum threshold
- Reasonable to provide comparable GHG regulatory treatment for all CHP facilities that exceed the minimum size threshold, regardless of whether they deliver electricity to the grid or solely serve on-site load
- Reasonable to allocate allowances to entities that deliver CHP generated electricity to the grid and for that electricity consumed on-site using fuel-differentiated output approach

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Allowance Allocations Among Sectors

- Not enough information about ARB's ultimate program design to specify approach to sector allocation; should be analyzed relative to costs of emissions reductions in other sectors
- Generally recommend allocation to electricity sector proportional to its historical emissions contribution in baseline period, ramping down to 2020 goal proportionally with other sectors

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Allowance Allocations within the Electricity Sector

- Considered alternative approaches to allocations
- Applied the following criteria to each approach:
  - Minimizes cost impacts
  - Provides equity among market participants
  - Supports a well-functioning market with accurate prices, certainty, and predictability
  - Simple to administer
  - Aligns incentives with AB 32 goals

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Allowance Allocations within the Electricity Sector

- Initially, 20% allowances auctioned, 80% distributed administratively to deliverers; ramp up annually by 20% to 100% auction by 2016
- Free allowances allocated to deliverers based on energy output and fuel source of electricity
- If emitters reduce carbon content of their power, allowances can be sold

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Allowance Allocations within the Electricity Sector

- Allowances for auction granted to the electricity retail providers, on behalf of their customers
- Retail providers required to sell allowances in an independent, centralized auction
- Allowance allocations to change over time, from grants based on historical portfolio emissions to sales basis by 2020

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Auction Revenue

- All auction revenues to be used for purposes of AB 32
- Revenue used to support investments in renewable energy, efficiency, new energy technology, infrastructure, bill relief for consumers
  - PUC/governing boards to decide programs
- ARB may wish to retain small portion of allowances with auction revenues used for statewide energy sector programs, consistent with AB 32

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Treatment of Combined Heat and Power (CHP)

- For CHP projects larger than ARB's minimum threshold: GHG emissions for electricity consumed on-site and/or delivered to the grid are included in cap-and-trade program and receive allowance allocations consistent with other electricity sources and providers
- Additional study needed to identify type and size of CHP projects that need additional encouragement
- Commissions to develop rules, programs and policies to achieve higher CHP goals

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Market Design and Flexible Compliance

- Key market design feature is maintaining environmental integrity
- Flexible compliance options important due to electricity sector characteristics – annual weather variations, hydro conditions
- Design should also allow open and transparent trading with many participants
- Flexible compliance options can reduce costs

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Market Design and Flexible Compliance

- Support multi-sector, regional cap-and-trade market with no restrictions on market participation and links to other equally stringent cap-and-trade programs
- Three-year compliance periods to allow time for implementing emission reduction measures, as well as to account for annual weather and rainfall variations
- No safety valves or price triggers
- Unlimited banking of GHG emission allowances and offsets
- Offsets should meet the requirements of AB 32 but should not be limited geographically
- Commissions will work with ARB to evaluate additional design features

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Issues Requiring Further Analysis & Consideration

- Impacts of longer or shorter phase-in periods
- Possible adjustments to sales-based allowances for non-carbon emitting resources
- Market and regulatory barriers for CHP
- Potential impacts on electric sector allowance allocations from electrification in other sectors
- Natural gas sector contributions to GHG reductions and potential impacts of increased use of natural gas as a transportation fuel
- Weighting factors for fuel-differentiated output based allowance allocations to deliverers

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Issues Requiring Further Analysis & Consideration

- Updates to deliverer-specific output-based proportions used in the distribution process
- Allowances allocations to new retail providers
- Appropriate trajectory for the transition from historical-based to sales-based allowance allocations
- Whether and how allowances should be distributed for verified energy efficiency
- Whether and how allowances should be set aside for the voluntary renewable electricity market